Electronic Procedure Verification and Workflow Management System, Phase I

Completed Technology Project (2018 - 2019)

Project Introduction

Procedures play a large role in successfully operating complex test equipment. They provide step-by-step instructions for system check-out, experimental set-up, test plans, and responding to off-nominal situations. As NASA moves away from traditional paper procedures to more flexible electronic procedures, there is an opportunity for a more flexible and efficient electronic procedure review, approval, and publishing process.The proposed workflow management system would automatically route new or changed procedures via web servers to reviewers, collect comments and revisions for display back to the procedure author, perform automated procedure verification, and keep an audit trail from procedure development through procedure publication. By tying into the NASA identity management system, electronic sign-off would be more efficient than physical signatures. A simple interface that allows "one click" verification and publishing of a new or revised procedure once all approvals have been given would greatly increase the usefulness of electronic procedures in test environments. TRACLabs has an existing electronic procedure platform, PRIDE, that is currently used by many NASA projects, including the X-57 program, and commercial companies. TRACLabs proposes to extend its PRIDE platform by developing an innovative procedure workflow management system that can be customized for each organization.

Anticipated Benefits

Aeronautical test procedures for projects such as the X-57 Maxwell

Standard operating procedures for human spaceflight such as Orion or Deep Space Gateway (DSG)

Ground operating procedures for robotics missions such as Resource Prospector or Mars 2020

Ground operating procedures for satellites such as TDRSS

Operating procedures for oil field equipment

Assembly and maintenance procedures for sophisticated equipment such as drill bits or satellites

Commercial space launch and cargo vehicles ground procedures

Petrochemical refining and operations standard operating procedures

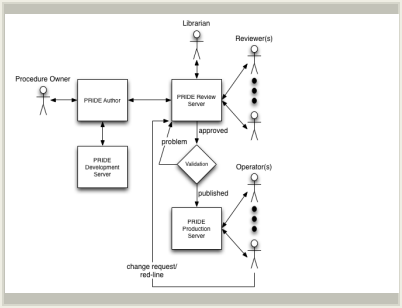

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Table of Contents

Small Business Innovation Research/Small Business Tech Transfer

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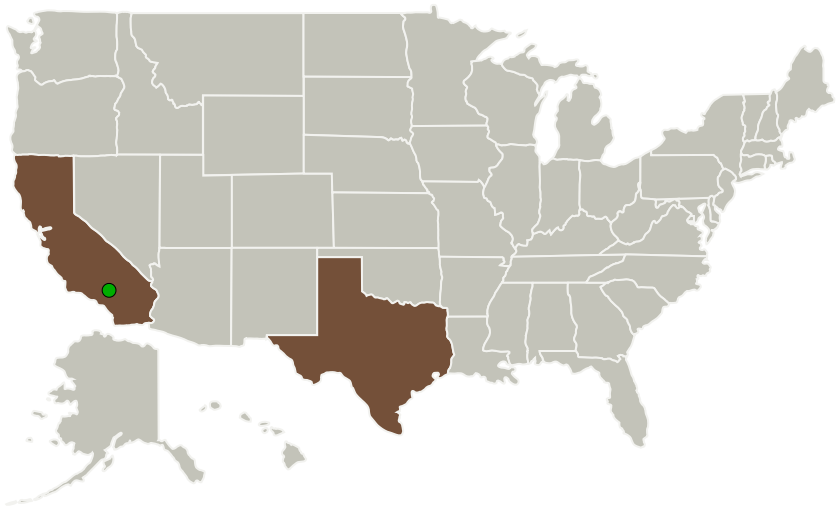
Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
TRACLabs, Inc.	Lead Organization	Industry	Webster, Texas
Armstrong Flight Research Center(AFRC)	Supporting Organization	NASA Center	Edwards, California

Primary U.S. Work Locations	
California	Texas

Project Transitions

July 2018: Project Start

February 2019: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/141035)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

TRACLabs, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

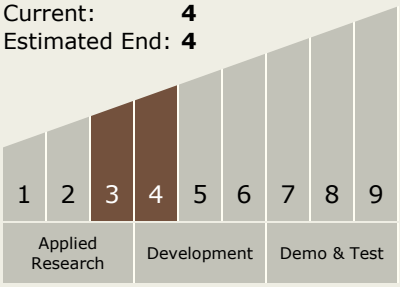
Carlos Torrez

Principal Investigator:

David M Kortenkamp

Technology Maturity (TRL)

Start: **3**
Current: **4**
Estimated End: **4**



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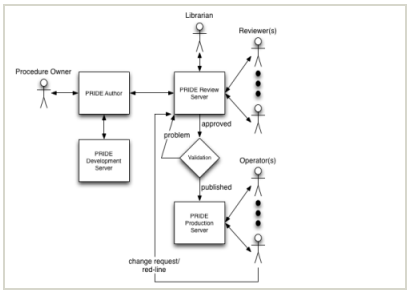
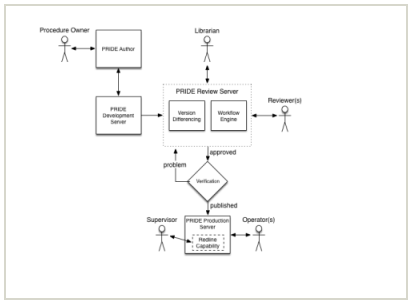
Images



Briefing Chart Image
Electronic Procedure Verification and Workflow Management System, Phase I
(https://techport.nasa.gov/image/127769)



Final Summary Chart Image
Electronic Procedure Verification and Workflow Management System, Phase I
(https://techport.nasa.gov/image/130136)

Technology Areas

Primary:

- TX01 Propulsion Systems
  - TX01.3 Aero Propulsion
    - TX01.3.8 All Electric Propulsion

Target Destination

Earth